What is claimed is:

1. An image judging apparatus, comprising:

a candidate region extracting means for extracting candidate regions for predetermined patterns from medical image data;

an inner/outer outline image extracting means for extracting inner/outer outline images, which are in the vicinity of the outline of the candidate regions extracted by the candidate region extracting means; and

a pattern judging means for judging the type of pattern within the candidate regions, by employing characteristic amounts of the inner/outer outline image extracted by the inner/outer outline image extracting means.

2. An image judging apparatus as defined in claim 1, wherein the type of pattern is one of a normal pattern, an abnormal pattern, a benign abnormal pattern, and a malignant abnormal pattern.

3. An image judging apparatus as defined in claim 1, wherein the type of pattern is a type of symptom which is similar to the pattern.

4. An image judging apparatus as defined in claim 1, further comprising:

a density pattern extracting means, for extracting density patterns, which are present within unit pixel groups that constitute the inner/outer outline images, extracted by the inner/outer outline image extracting means;

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a presence frequency calculating means, for judging which of the density patterns the unit pixel groups of the inner/outer outline images are similar to, and calculating presence frequencies by counting the presence of the similar density patterns within the inner/outer outline image; and

a classifying means, for classifying the inner/outer outline images according to the type of pattern, based on the presence frequencies of the density patterns; wherein

the pattern judging means judges to which classification the candidate region belongs, from among the classifications of the inner/outer outline images, which were classified according to the type of pattern by the classifying means, by employing the presence frequencies of the density patterns therein, derived by the presence frequency calculating means, as characteristic amounts.

5. An image judging apparatus as defined in claim 1, wherein:

the inner/outer outline image extracting means divides the inner/outer outline image into two or more regions comprising an outline edge, an outline interior and an outline exterior; and

the pattern judging means judges the type of pattern based on the characteristic amount of at least one of the regions.

6. An image judging apparatus as defined in claim 5, further comprising:

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a density pattern extracting means, for extracting density patterns, which are present within unit pixel groups that constitute the inner/outer outline images, extracted by the inner/outer outline image extracting means;

5   a presence frequency calculating means, for judging which of the density patterns the unit pixel groups of the inner/outer outline images are similar to, and calculating presence frequencies by counting the presence of the similar density patterns within the inner/outer outline image; and

10   a classifying means, for classifying the inner/outer outline images according to the type of pattern, based on the presence frequencies of the density patterns; wherein

the pattern judging means judges to which classification the candidate region belongs, from among the classifications

15   of the inner/outer outline images, which were classified according to the type of pattern by the classifying means, by employing the presence frequencies of the density patterns therein, derived by the presence frequency calculating means, as characteristic amounts.

20   7.   A method for judging images, comprising the steps of:

extracting candidate regions of specific patterns from medical image data;

extracting inner/outer outline images, which are in the vicinity of the outline of the extracted candidate regions;

25   and

judging the type of pattern within the candidate regions,

by employing characteristic amounts of the extracted inner/outer outline image.

8. A program that causes a computer to execute a method for judging images, comprising the procedures of:

extracting candidate regions of specific patterns from medical image data;

extracting inner/outer outline images, which are in the vicinity of the outline of the extracted candidate regions; and

judging the type of pattern within the candidate regions, by employing characteristic amounts of the extracted inner/outer outline image.

9. A computer readable medium having recorded therein a program that causes a computer to execute a method for judging images, comprising the procedures of:

extracting candidate regions of specific patterns from medical image data;

extracting inner/outer outline images, which are in the vicinity of the outline of the extracted candidate regions; and

judging the type of pattern within the candidate regions, by employing characteristic amounts of the extracted inner/outer outline image.